ABSTRACT OF THE DISCLOSURE

Array hybridization can be facilitated by agitating a reaction cell subject to centrifugal force greater than 1G. A two-dimensional hybridization array is preferably oriented generally orthogonal to the centrifugal force. Agitation involves titling the array back and forth about an axis, preferably parallel to a centrifuge axis. The centrifugal force serves, in a sense, as supergravity helping to overcome non-specific binding forces (viscous forces and other forces at the liquid-solid boundary) that limit the rate of liquid flow. Thus, the agitation rate and the related replenishment rate can be increased. The agitation causes the sample liquid to wash back and forth across the array, which remains protected by a thin liquid film. The resulting "tidal" motion, results in thorough mixing of the sample liquid. In addition, since only a thin film is required over much of the array, typically costly sample volume can be reduced. Thus, faster hybridization with lower sample volumes can be achieved.